

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): An optical apparatus comprising: having an  
adjustment apparatus and

an optical unit comprising a plurality of optical elements;[[,]]

an said adjustment apparatus configured to output sequentially providing control  
signals which that, according to a genetic algorithm probabilistic search technique, make  
adjustment of change parameters of a stipulated plurality of optical elements among said  
plurality of optical elements and which search for optimal parameter values at which to  
become parameters that cause functions of said optical apparatus satisfy stipulated  
specifications;

a memory that stores a plurality of pairs of parameter values measured during the  
adjustment of the parameters by said control signals and observation values of output light  
obtained simultaneously with measurement of said pairs of parameter values; and  
means for selecting among said plurality of pairs a pair which has a largest evaluation  
value and replacing a solution candidate of the genetic algorithm with the parameter values of  
the selected pair.

Claims 2-3 (Canceled).

Claim 4 (Currently Amended): The optical apparatus according to claim 1 any of  
claims 1-3, wherein said adjustment apparatus uses an evaluation function that performs  
weighted sum of a plurality of evaluation results of a state of the functions of the optical  
apparatus.

Claim 5 (Canceled).

Claim 6 (Currently Amended): The optical apparatus according to claim 1 ~~any of~~ claims 1-3, wherein the optical unit ~~comprising said optical elements~~ is a laser.

Claim 7 (Currently Amended): The optical apparatus according to claim 1 ~~any of~~ claims 1-3, wherein said stipulated plurality of optical elements comprise a deformable mirror.

Claim 8 (Currently Amended): The optical apparatus according to claim 7, wherein the optical unit ~~comprising said optical elements~~ is a wave-front controller.

Claim 9 (Currently Amended): The optical apparatus according to claim 7, wherein the optical unit ~~comprising said optical elements~~ is a telescope.

Claims 10-11 (Canceled).

Claim 12 (Currently Amended): A method of adjusting an optical apparatus that controls a plurality of optical elements constituting an optical unit, comprising the steps of:

sequentially providing control signals that, according to a genetic algorithm ~~probabilistic search technique, make adjustment of change~~ parameters of a stipulated plurality of optical elements among said plurality of optical elements;[[, and]]

searching for optimal parameter values at which functions of said optical apparatus satisfy stipulated specifications;

storing in a memory a plurality of pairs of parameter values measured during adjustment of the parameters by said control signals and observation values of output light obtained simultaneously with measurement of said pairs of parameter values;

selecting among said plurality of pairs a pair which has a largest evaluation value; and

replacing a solution candidate of the genetic algorithm with the parameter values of the selected pair.

Claims 13-14 (Canceled).

Claim 15 (Currently Amended): The method according to claim 12 [[14]], wherein a function that performs weighted sum of a plurality of evaluation results of a state of the functions of the optical apparatus is used as an evaluation function.

Claim 16 (Canceled).

Claim 17 (Currently Amended): The method according to claim 12 any of claims 12-14, wherein ~~it~~ the method adjusts parameters of the optical elements constituting the optical unit used as a laser.

Claim 18 (Currently Amended): The method according to claim 12 any of claims 12-14, wherein it the method adjusts the parameters of the stipulated plurality of optical elements comprising a deformable mirror.

Claim 19 (Currently Amended): The method according to claim 18, wherein it the method adjusts parameters of the optical elements constituting the optical unit used as a wave-front controller.

Claim 20 (Currently Amended): The method according to claim 18, wherein it the method adjusts parameters of the optical elements constituting the optical unit used as a telescope.

Claim 21 (Canceled).

Claim 22 (Currently Amended): An adjustment apparatus comprising an electronic computer and recording media which said electronic computer can read, wherein said adjustment apparatus performs adjustment by the method of claim 12 any of claims 12-14.

Claim 23 (Currently Amended): Recording media that store an adjustment program that performs the adjustment according to claim 12 any of claims 12-14.